DOCUMENT RESUME

ED 112 350 95 CS 002 134

AUTHOR Gadway, Charles; Wilson, P. A.
TITLE Functional Literacy: Basic Reading Performance. An Assessment of In-School 17-Year-Olds in 1974. Technical Summary.
INSTITUTION Education Commission of the States, Denver, Colo. National Assessment of Educational Progress.
SPONS AGENCY National Center for Educational Statistics (DHEW/OE), Washington, D.C.; Office of Education (DHEW), Washington, D.C. Right to Read Program.
PUB DATE 75
NOTE 32p.

EDRS PRICE MF-$0.76 HC-$1.95 Plus Postage
DESCRIPTORS *Criterion Referenced Tests; Critical Reading; *Functional Illiteracy; *Functional Reading; *Reading Comprehension; *Reading Tests; Secondary Education
IDENTIFIERS National Assessment of Educational Progress; Right to Read

ABSTRACT

The functional literacy of various groups of 17-year-old students was assessed to discover whether the reading skills which are usually taught in the schools are adequate for functioning in everyday life. Eighty-six test exercises were classified according to the various formats of reading materials they represent and according to the types of behaviors they elicit. The highest expected level of performance was determined by the achievement level obtained by a group of superior readers on a standardized reading test. All groups performed highest on drawings, pictures, signs, and labels and second highest on charts, maps, and graphs. Most groups performed third highest on passages, fourth highest on forms, and least well on reference materials. Comparison of the results of this test given in 1973-74 with a truncated version given to 17-year-olds in 1970-71 showed all groups gained in functional reading skills. Three exercise parts consisting of questions about an insurance policy statement, a traffic ticket, and an application form were answered well by no group, including the superior readers, which raises the question of further defining functional reading. (MKM)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

ED112350
CS 002 134

RIGHT TO READ

Functional Literacy– Basic Reading Performance

Technical Summary

700 LINCOLN TOWER • 1860 LINCOLN STREET • DENVER, COLORADO 80203 • (303) 893-5200

NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS

1975

This publication was prepared and produced pursuant to agreements with the National Right to Read Effort and the National Center for Education Statistics, Office of the Assistant Secretary for Education, Department of Health, Education, and Welfare. The statements and views expressed herein do not necessarily reflect the position and policy of the Office of the Assistant Secretary for Education but are solely the responsibility of the National Assessment of Educational Progress, a project of the Education Commission of the States.

FUNCTIONAL LITERACY

Basic Reading Performance

An Assessment of In-School
17-Year-Olds in 1974

Prepared for

The National Right to Read Effort
400 Maryland Avenue, SW
Washington, D.C. 20202

In Cooperation With

The National Assessment of Educational Progress
(A Project of the Education Commission of the States)
1860 Lincoln Street, Suite 700
Denver, Colorado 80203

by

Charles Gadway, MAFL Coordinator, Exercise Development
H.A. Wilson, Director, Exercise Development

TABLE OF CONTENTS

PREFACE v

INTRODUCTION. vii

CHAPTER 1 DESCRIBING THE DATA. 1

CHAPTER 2 CHANGES IN FUNCTIONAL READING SKILLS: AN APPARENT IMPROVEMENT. 3
Ways to Look at Changes in Functional Reading Skills 3

CHAPTER 3 SUMMARY AND HIGHLIGHTS 9
Looking at Summary Data. 9

CHAPTER 4 THREE UNIQUE EXERCISES AND SOME FOOD FOR THOUGHT ON FUNCTIONAL LITERACY 19

PREFACE

It is a well-known fact that every year many young Americans graduate from high school unable to read well enough to function adequately in everyday life. It is not simply that these young people cannot read a great novel in depth; they cannot cope adequately with reading materaisl frequently encountered in everyday life such as road signs, maps, advertisements, forms and reference works. To merely acknowledge that this serious problem exists is simple. To determine the extent of the problem and what can be done to remedy it is more difficult.

In an attempt to partially accomplish the latter, Right-to-Read awarded a grant to the Education Commission of the States to have the National Assessment of Educational Progress (NAEP) conduct a Mini-Assessment of Functional Literacy (MAFL) for at least two years in conjunction with its regular assessments. This first MAFL, for which highlights of the results are reported here, was administered only to 17-year-olds currently enrolled in school. The exercises selected for use in the MAFL represent a variety of materials that *all* 17-year-olds should be able to read -- as determined by a panel of reading specialists -- if they are to be able to function adequately in everyday life.

The MAFL exercises were compiled into two packages (booklets) each of which could be administered to groups of not more than 12 students each in a one-hour period (including preparatory remarks and directions). Scoring, data processing and analyses were done in conjunction with these activities for NAEP's regular assessment.

INTRODUCTION

In the English language, reading has many meanings. Right-to-Read and the National Assessment of Educational Progress (NAEP), in conducting the Mini-Assessment of Functional Literacy (MAFL), are concerned only with those reading skills usually taught in the schools that are essential for adequate functioning in everyday life -- and the percentages of various groups of 17-year-old students who have attained these skills.

In everyday life, people encounter such varied types of reading materials as novels, mystery thrillers, newspapers, magazines, reference works, sundry graphic materials and many more. People can respond to these materials in a wide variety of ways depending upon the development of their reading skills and/or their degree of interest in the material. A person may simply glean isolated facts from reading materials; or he may relate these facts to recognize the central idea the facts support, draw complex inferences from the facts or criticize the contents.

Classification of the MAFL Exercises

From the foregoing, it is evident that two things must be present for reading to occur. There must be some type or format of reading materials, and there must be some type of behavior or response toward the material. We have also pointed out that there are many possible formats of reading material and many types of reading behavior. The MAFL exercises, as a set, were selected to present the formats of reading materials we frequently encounter in everyday life and with which we must be able to cope if we are to be able to function adequately. The reading behaviors they elicit are, for the most part, basic. We felt that it would be desirable and interesting to classify

the MAFL exercises according to the various formats of reading materials they represent and according to the types of reading behaviors they elicit. The NAEP-MAFL staff and a panel of reading specialists studied the MAFL exercises and classified them into five formats and five behaviors. When a MAFL exercise contained more than one part, each part was classified independently. Therefore, a multipart exercise can represent several formats and/or several behaviors.

The MAFL Exercise Formats

The five MAFL exercise formats and the number of exercise parts represented in each are as follows:

I - Passages	38
IIA - Graphic materials -- drawings, pictures, coupons	13
IIB - Graphic materials -- charts, maps, graphs	11
IIC - Graphic materials -- forms	10
III - Reference materials	14
TOTAL	86

Following are the definitions of the MAFL exercise formats.

Format I - Passages. The reading materials represented by this format are line-by-line narrative passages such as those found in stories, poems or newspaper and magazine articles.

The reading materials represented by formats IIA, IIB and IIC are similar in that they are all graphic materials. In the general sense, graphic materials transmit information through symbols other than words. While words frequently appear in graphic materials, they may not bear the greatest burden of communication. In any event, words appearing in graphic materials are supported by the nonverbal aspects. Because of the diversity of graphic materials, the NAEP-MAFL staff and the panel of reading specialists chose to create three graphic-material format categories. In all cases, students

responded primarily to the graphic aspects rather than any words contained in them.

Format IIA - Graphic materials -- drawings, pictures, signs, labels coupons. The reading materials represented by this format are drawings or other simple pictures, various signs including signs on doors and traffic signs and a coupon. Labels are not represented.

Format IIB - Graphic materials -- charts, maps, graphs. The reading materials represented by this format are several types of charts -- listings -- and a map. No graphs are represented. The materials of this format could, in one sense, be included in Format III, reference materials, since a person consults these materials in search of specific information -- a process that is a study skill.

Format IIC - Graphic materials -- forms. The reading materials represented by this format are an automobile insurance policy statement, a check, a report card and a long distance telephone bill. In general, this format represents reading materials organized in specific ways to enhance the location of the information they contain. The materials of this format could also, in one sense, be included in Format III, reference materials, since one of its properties is its organization of contents.

Format III - Reference materials. Reference materials are unique in that they are organized to facilitate the retrieval of information. By the same token, a person is usually seeking specific information when he "reads" or uses reference materials. The process of gleaning information from reference materials is regarded as a study skill. The reference materials represented in the format all relate to the ability to use various reference materials. Another aspect of this format, although it is not represented in the MAFL, is knowledge of the appropriate reference source where a given kind of information can be found.

The MAFL Exercise Behaviors

The five MAFL exercise behaviors and the number of exercise parts represented in each are as follows:

1 - Understand word meanings	12
2 - Glean significant facts	47
3 - Comprehend main ideas and organization	8
4 - Draw inferences	16
5 - Read critically	3
TOTAL	86

Following are the definitions of the response behaviors of the MAFL exercises.

Behavior 1 - Understand word meanings. Before a person can understand word meanings and the relationships of words to each other to form meaningful wholes, he must have at least a reasonable mastery of the fundamental skills usually taught in the primary grades. This implies that he has a working knowledge of the language and is able to translate visual symbols into sound (vocal or subvocal) by sight identification or by some technique of word analysis. After the person produces the sound that makes up the word, can he understand it? It is at this point that the skills assessed by this reading behavior become important. In all the MAFL exercises that represent "understand word meanings," the words occur in some context -- road signs, signs on doors, advertisements and so on. Sometimes the context in which a word appears can help the reader to determine the meaning of a word if he does not already understand it.

Behavior 2 - Glean significant facts. This behavior simply requires the reader to locate the specific facts -- without regard to format -- asked for in the exercise.

Behavior 3 - Comprehend main ideas and organization. A reader who can only glean significant facts from what he reads loses much of the author's

intent. The ultimate goals in reading are that the reader understand exactly what the author has said and that he be able to respond meaningfully to the author's message. The goals begin to approach fulfillment when the reader can identify the main idea or topic that the factual materials support and when the reader can identify the author's mode of structuring the factual materials to convey his message.

While comprehending main ideas and organization generally implies a higher-order reading skill, the MAFL exercises representing this behavior require a very low level of this skill. Four of the eight exercises classified under this behavior merely require knowledge of the alphabetical organization of dictionaries, telephone books and encyclopedias. Two asked for the main idea of a very short passage (two to four lines). One asked which of four sentences did not belong with the others, and one asked with which fact a passage begins.

Behavior 4 - Draw inferences. The reader who can identify the main idea and organizational mode of reading material has taken a large step twoard being able to understand exactly what the author has said and being able to respond meaningfully to the author's message. The next step toward attaining those ultimate goals of reading is being able to draw inferences from what the author has said. This skill involves going beyond the information given by the author and arriving at conclusions based on that information. A reader is likely to draw incorrect inferences if he has not mastered the skill of identifying the main idea and organization of a work since he cannot tell what facts (conclusions) should follow from the facts given.

Like comprehending main ideas and organization, drawing inferences generally implies a higher-order reading skill. The 16 MAFL exercises representing this behavior, however, require only a low degree of inference, that is, the distance from the given facts to the required response is small.

Behavior 5 - Read critically. Once a reader is able to relate the significant facts in a work to identify the author's main idea and organizational mode and is able to draw inferences from the author's message, he has become involved in a complex reader-author interaction. He has moved a long way toward the ultimate goals of reading: understanding exactly what the author has said and responding meaningfully to the author's message. The final step toward achieving these goals is embodied in reading critically. A reader must be able to use his own thoughts and experiences to analyze, criticize, evaluate and then accept, modify or reject what the author has said.

To read critically, a reader must understand the various literary devices used by the author to enhance his message and how effective these devices were. He must recognize how the mood and tone help to carry the author's message. He must be able to determine whether an author is stating a fact or expressing an opinion, and he must recognize the author's purpose in writing the passage.

The three MAFL exercises representing this behavior, again, require only a marginal degree of reading critically.

* * *

Reading is not an all-or-nothing activity. Rather, it is a series of progressively complex behaviors toward a variety of materials. At each step the reader becomes ever more deeply involved in a reader-author relationship and a fulfilling reading experience.

CHAPTER 1

DESCRIBING THE DATA

Superior Readers and the Highest Expected Level of Performance

The NAEP-MAFL staff hypothesized that while 100% may be an *ideal* criterion for the exercises selected for the Mini-Assessment of Functional Literacy (MAFL), it may not be the one most appropriate in determining the degree of functional literacy among 17-year-old students. We believe that the achievement level on each MAFL exercise by a group of known superior readers would provide a set of more appropriate and realistic criteria. We arbitrarily defined a superior reader as a 17-year-old student who attained at least the ninety-fifth percentile on the College Entrance Examination Board reading test or an equivalent standardized reading test. One hundred[1] superior readers in the Denver metropolitan area[2] were administered both MAFL packages. The percentage of superior readers who responded correctly on each MAFL exercise was considered to be the "highest expected level of performance" (HELP) for that exercise. The observed percentages of correct responses (P-values) for each group for which we report results have been adjusted to the HELP criteria by converting each to a percentage of the HELP for that exercise. All values given in this report are based upon or derived from the HELP criteria.

---

[1]Since superior readers are homogeneous on that trait, we deemed 100 to be an adequate, if not ideal, sample size.

[2]Since a superior reader is a superior reader regardless of what other traits he may possess, we felt that it was not necessary to locate them in different regions nor to take into account their sex or race, the type of community where they attend school or the level of their parents' education.

Functional Reading Skills

A group's functional reading skill may be its overall performance on all the MAFL exercises or on some subset of them such as one of the formats or behaviors. We express these functional reading skills as the mean percentage correct (mean P-value)[3] for the exercises representing the skill in question.[4]

Functional reading skills can also be expressed as points on a functional literacy index scale. Such a scale is most useful for making comparisons -- among groups within a given assessment or within a group from one assessment to another. The advantage of an index scale is that it is sensitive to small differences.

---

[3]"Mean percentage correct" is an abbreviated phrase and should be read "mean percentage of group X who responded correctly." It is synonymous with "mean P-value."

[4]A word of caution: The specific exercises representing a skill may not be truly representative of all that is implied by the generic name given the skill.

CHAPTER 2

CHANGES IN FUNCTIONAL READING SKILLS: AN APPARENT IMPROVEMENT

Since 64 of the 86 exercise parts included in the Mini-Assessment of Functional Literacy (MAFL) were administered to 17-year-old students by the National Assessment of Educational Progress (NAEP) during its regular Year 02 (1970-71) assessment of reading, we can report any changes in performance between the Year 02 and the Year 05 (1973-74) MAFL on this subset of MAFL exercises.[1]

Ways to Look at Changes in Functional Reading Skills

We have defined in Chapter 1 a functional reading skill as the mean percentage correct (mean P-value) on some sets of exercises representing the skill. Since we have the mean percentages correct on the truncated MAFL for both Year 02 and Year 05, one way we can look at changes in functional reading skills is to compute the percentage-point changes in mean percentages correct.

In Chapter 1 we also stated that functional reading skills could be expressed as points on a functional literacy index scale. We can likewise express changes in functional reading skills by computing point changes from Year 02 to Year 05.

---

[1]We call this subset of 64 exercise parts the *truncated* MAFL. We report summarized changes only over the entire truncated MAFL since the pool of exercises in this subset is too small to produce reliable summaries for the formats and behaviors. Changes on individual exercises, unless particularly noteworthy, are reported only in the Statistical/Documentary Report.

Both of these methods look at change from the same viewpoint -- the absolute amount of change -- the only difference being that the latter is more sensitive to small changes and is more *utile in making comparisons.*

A different way to look at changes in functional reading skills is the "percentage of maximum possible gain" (PMPG). Of the *most* that any group could possibly gain (i.e., become equal to the superior readers), the PMPG tells the percentage of this maximum gain the group actually gained. Some of the more spectacular changes in mean percentages correct and index points lose some of their luster when taken as a PMPG. By the same token, some of the apparently more modest gains shine when viewed in this different light. For example, the high-metro group gained 1.62 mean P-value points and 18.5 index points, but this represents more than 24% of the group's "maximum possible gain" (MPG). On the other hand, blacks gained 3.59 mean P-value points and 40.9 index points, but this represents less than 13% of their MPG. The PMPG is not intended to make any group look good or bad; it is simply a different way of looking at changes in functional reading skills. Any evaluation of such changes should take *both* viewpoints into consideration.

Overview

All groups gained in functional reading skills -- at least those measured by the truncated MAFL. While this does not mean that all groups gained on all the exercises, all groups did show a gain in their mean percentage correct; and all groups gained on more exercises than they regressed on. In general, those groups gained most who had the most to gain. Certainly this is what we would hope for and probably expect.

The largest gain in terms of mean percentage correct was posted by the group whose parents had no high school -- they gained 4.65 mean percentage

points and a corresponding 53.0 functional literacy index points.[2] The group whose parents had post-high school education gained the least: 0.78 mean percentage points and 8.9 index points.

In terms of the PMPG, the largest gain (28.2) was posted by the extreme-rural groups. The medium-city group gained the least (9.73) in these terms.

Within each variable, the group performing least well in Year 02 (region, Southeast; sex, male; race, black; parental education, no high school; size and type of community, low metro) made substantial gains. In all cases, however, the Year 05 mean P-values for these groups is still smaller than the Year 02 mean P-values for the groups posting the next poorest performance (region, West; sex, female; race, white; parental education, some high school; size and type of community, extreme rural).

Exhibit 2-1 shows the changes in mean P-values ($\bar{P}_{05} - \bar{P}_{02}$), the changes in functional literacy index points ($FLI_{05} - FLI_{02}$) and the percentages of maximum possible gain (PMPG) these changes represent.

Exhibit 2-2 shows graphically the percentage-point changes from Year 02 to Year 05. Three size-and-type-of-community groups (small place, medium city and urban fringe) are not shown on this exhibit since their performances were so close to the national level that graphic congestion would have resulted.

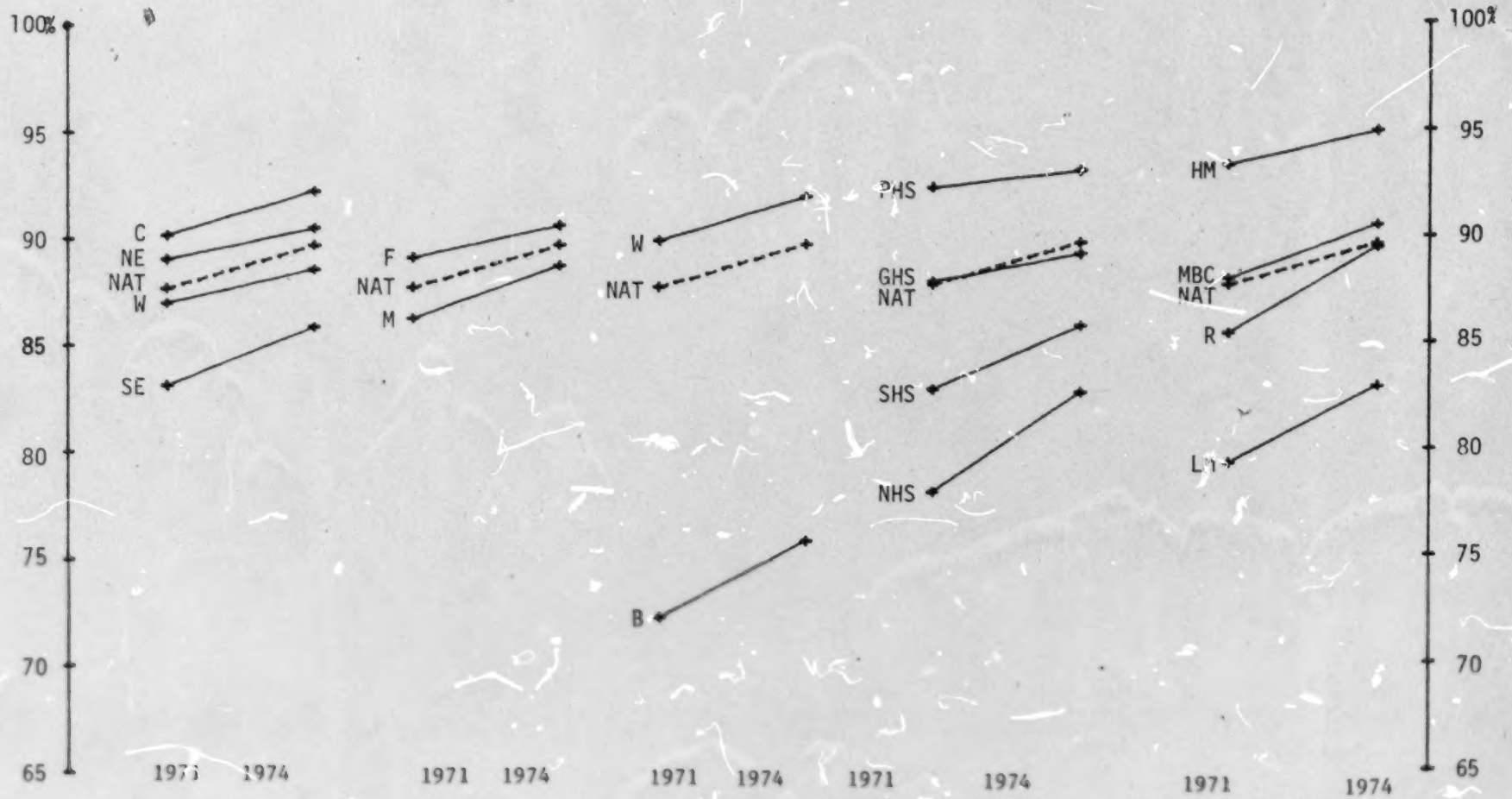
---

[2]The functional literacy index scale was constructed so that the national mean P-value for the base (in this case, Year 02) converts to 1,000.0 index points, and a mean P-value of 0.0 converts to 0.0 index points. With these constraints, the maximum possible number of index points attainable is 1,140.0.

EXHIBIT 2-1. Changes in Mean P-Values, Functional Literacy Index Points and Percentages of Maximum Possible Gain

	$\bar{P}_{05} - \bar{P}_{02}$	$FLI_{05} - FLI_{02}$	PMPG
National	+2.01	+22.9	16.37
Region			
Southeast	+2.73	+31.1	16.18
West	+1.56	+17.7	12.03
Central	+2.07	+2.36	21.04
Northeast	+1.43	+16.3	13.10
Sex			
Male	+2.49	+28.4	18.12
Female	+1.52	+17.3	13.97
Race			
Black	+3.59	+40.9	12.91
White	+2.10	+24.0	20.77
Parental education			
No high school	+4.65	+53.0	21.12
Some high school	+2.94	+33.5	17.09
Graduated high school	+1.34	+15.2	11.02
Post high school	+0.78	+ 8.9	10.10
Size and type of community			
Low metro	+3.63	+41.4	17.60
Extreme rural	+4.11	+46.8	28.21
Small place	+2.39	+27.2	18.80
Medium city	+1.11	+12.7	9.73
Main big city	+2.56	+29.2	21.39
Urban fringe	+2.27	+25.9	20.67
High metro	+1.62	+18.5	24.40

EXHIBIT 2-2. Changes in Reading Ability of 17-Year-Olds From 1971 to 1974



NAT-National
SE-Southeast
W-West
C-Central
NE-Northeast

M-Male
F-Female

B-Black
W-White

NHS-No High School
SHS-Some High School
GHS-Graduate High School
PHS-Post High School

LM-Low Metro
ER-Extreme Rural
SP-Small Place
MC-Medium City
MBC-Main Big City
UF-Urban Fringe
HM-High Metro

CHAPTER 3

SUMMARY AND HIGHLIGHTS

All summary values reported in this chapter are adjusted to the superior reader "highest expected level of performance" (HELP) described in Chapter 1. Also, all values reported in this chapter are based on the entire set of 86 exercise parts (universe) included in the Mini-Assessment of Functional Literacy (MAFL) or on one of the subsets of the 86 exercise parts assigned to the formats or behaviors. Following is the code-key for the formats and behaviors and the number of exercises categorized under each.

Format I	- Passages	38
IIA	- Graphic materials -- drawings, pictures, signs, labels, coupons	13
IIB	- Graphic materials -- charts, maps, graphs	11
IIC	- Graphic materials -- forms	10
III	- Reference materials	14
Behavior 1	- Understand word meanings	12
2	- Glean significant facts	47
3	- Comprehend main ideas and organization	8
4	- Draw inferences	16
5	- Read critically	3

Because the names of some of the formats and behaviors are quite long, references to them are abbreviated, for example: drawings, pictures, etc.; forms.

Looking at Summary Data

When looking at summary data, one must bear two important facts in mind. First, some information is lost. The mean P-value is a number that describes a group's overall level of functional reading skills on a set of MAFL exercises. These summary data do not tell us, however, on which exercises a group performs differently than we might expect on the basis of the group's overall

performance. If the mean is "the rule," remember that there are exceptions to every rule.

The second problem that must be taken into account when looking at summary data is one of exercise sampling. Our samples of students are selected in such a manner that they are representative of the populations from which they were selected. We can, therefore, estimate from the sample data the performance of the entire population. We would like to be able to say this about our sample of exercises, but we simply cannot. In the first place, it is impossible to identify all the possible reading exercises that measure functional literacy or some aspect of it and then select a representative sample. The MAFL exercises were selected by a panel of reading specialists who, by consensus, agreed that they measured functional literacy. Even with this face validity, the question remains: Is the selected sample of functional literacy exercises representative of all the possible functional literacy exercises? There is no valid answer to this question. The MAFL exercises were categorized by the consensus of another panel of reading specialists into the formats and behaviors. Since these sample sizes are smaller -- and in some cases, very small -- the question of representativeness is even more serious. Great caution must be exercised, therefore, in generalizing summarized data -- whether from the entire sample of MAFL exercises or one of the formats or behaviors -- to the respective populations of exercises. Extreme caution must be used if the number of exercises in the sample is less than 10.

The Groups

Within each variable, the order of the groups' performances remained mostly consistent with the levels we have come to expect on the basis of other assessments. The size-and-type-of-community variable is a partial exception to this rule.

Among the regions of the country, Central performed highest and Southeast lowest on all exercise classifications. Northeast performed second and West third on all classifications except on main ideas and critical reading where they exchanged places.[1]

Girls performed higher than boys on all exercise classifications except on forms and critical reading.

Whites performed higher than blacks on all classifications.

Among levels of parental education, the groups performed from highest to lowest on all classifications as follows: post high school, graduated from high school, some high school and no high school.

Among the sizes and types of community, the low-metro group performed least well on all exercise classifications, and the high-metro group performed highest on all classifications except for forms. All the other groups performed very close to each other and the national level. Because of the proximity of these mean P-values, there is a wide fluctuation of the rank-order levels of performance that probably reflects more sampling error[2] than any real differences in functional reading skills.

The Formats

All groups performed highest on drawings, pictures, etc. and second highest on charts, maps and graphs. All groups performed third highest on passages with the exception of the main-big-city group who performed fourth highest in

---

[1]These exchanges may be flukes of the small number of exercises classified under these behaviors.

[2]From any given population a very large number of samples could be selected from which we would not obtain exactly the same data. The variation that would occur among the data from these different potential samples is called sampling error.

this format. Most groups performed fourth highest on forms; of those that did not, the West, female, extreme-rural, medium-city and high-metro groups performed least well on this format and the main-big-city group third highest. Most groups performed least well on reference materials.

The Behaviors

All groups understood word meanings best and drew inferences least well. While performance on the other behaviors was somewhat mixed, most groups performed second highest on comprehending main ideas, third highest on reading critically and fourth highest on gleaning significant facts.

For those who wish to see the summary data in greater detail, Exhibit 3-1 gives the mean P-values for the universe and the formats; Exhibit 3-2 gives the mean P-values for the universe and behaviors; Exhibit 3-3 shows the mean P-values for the universe graphically; Exhibit 3-4 gives the functional literacy index points[3] for the universe and formats; and Exhibit 3-5 gives the functional literacy index points for the universe and the behaviors.

---

[3]The functional literacy index scale was constructed so that the national mean P-value for the base (in this case, Year 05) converts to 1,000.0 index points and a mean P-value of 0.0 converts to 0.0 index points. With these constraints, the maximum possible number of index points attainable is 1,097.0. Because of the different base year and the additional exercises included, this index scale is not comparable to the one constructed for the truncated MAFL (see Chapter 2).

EXHIBIT 3-1. Mean P-Values for the Universe and Formats

	Universe (86)	I (38)	IIA (13)	IIB (11)	IIC (10)	III (14)
National	91.16	91.38	94.72	93.10	88.58	87.57
Region						
Southeast	88.08	88.52	92.37	90.37	84.30	83.63
West	90.33	90.49	94.34	92.12	86.65	87.40
Central	93.26	93.46	96.67	94.54	91.61	89.70
Northeast	91.63	91.71	94.67	94.43	89.40	87.97
Sex						
Male	90.24	90.05	94.05	92.45	88.87	86.45
Female	92.02	92.66	95.33	93.65	88.29	88.56
Race						
Black	79.08	79.44	85.33	82.32	75.74	72.14
White	93.16	93.38	96.58	95.06	90.59	89.72
Parental education						
No high school	85.36	85.82	90.75	86.74	83.33	79.44
Some high school	87.95	88.31	92.27	91.21	84.08	83.16
Graduated high school	90.66	91.01	94.62	92.35	87.46	86.95
Post high school	94.01	94.05	96.93	95.86	91.87	91.27
Size and type of community						
Low metro	87.17	86.41	88.65	87.68	81.68	79.09
Extreme rural	91.24	90.99	95.59	93.33	86.92	89.32
Small place	91.08	90.97	94.78	92.92	89.69	87.49
Medium city	91.24	91.45	95.49	93.66	87.05	87.83
Main big city	91.90	91.95	95.47	92.69	92.30	87.52
Urban fringe	92.40	93.00	95.64	94.36	88.99	88.65
High metro	95.88	96.27	98.43	97.74	91.24	93.65

I - Passages
IIA - Graphic materials -- drawings, pictures, signs, labels, coupons
IIB - Graphic materials -- charts, maps, graphs
IIC - Graphic materials -- forms
III - Reference materials

EXHIBIT 3-2. Mean P-Values for the Universe and Behaviors

	Universe (86)	1 (12)	2 (47)	3 (8)	4 (15)	5 (3)
National	91.16	96.83	91.57	93.58	84.18	92.78
Region						
Southeast	88.08	95.11	88.44	92.03	79.37	90.13
West	90.33	95.92	90.48	93.08	83.95	92.40
Central	93.26	98.20	93.71	95.37	86.75	95.44
Northeast	91.63	97.15	92.25	92.97	84.93	92.03
Sex						
Male	90.24	96.26	90.74	91.91	82.67	94.26
Female	92.02	97.39	92.35	95.19	85.50	91.51
Race						
Black	79.08	92.06	79.68	90.02	63.91	81.44
White	93.16	97.56	93.46	94.82	87.80	95.01
Parental education						
No high school	85.36	94.39	86.02	89.40	74.24	87.34
Some high school	87.95	95.91	88.43	91.73	78.59	88.32
Graduated high school	90.66	96.88	91.04	93.30	83.30	93.85
Post high school	94.01	97.76	94.38	95.52	88.94	96.23
Size and type of community						
Low metro	85.17	95.52	86.29	87.65	72.92	84.87
Extreme rural	91.24	96.40	91.03	94.85	85.67	93.98
Small place	91.08	96.64	91.55	93.46	84.03	92.69
Medium city	91.24	96.57	91.13	94.47	85.18	95.20
Main big city	91.90	97.71	92.54	94.05	84.27	93.39
Urban fringe	92.40	97.58	93.16	93.75	85.53	92.73
High metro	95.89	97.90	95.83	96.98	93.74	97.33

1 - Understand word meanings
2 - Glean significant facts
3 - Comprehend main ideas and organization
4 - Draw inferences
5 - Read critically

EXHIBIT 3-3. Mean P-Values for the Universe

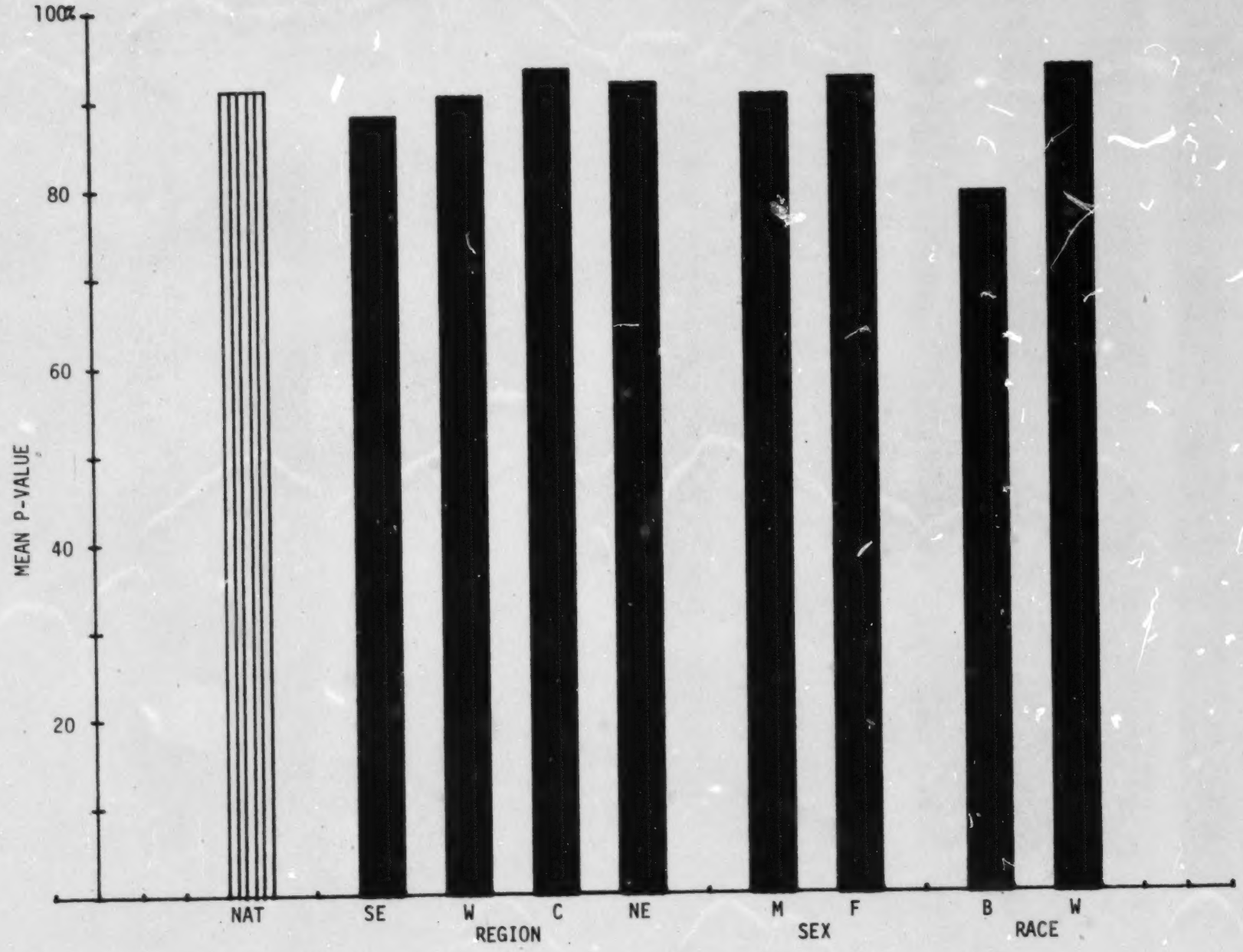


EXHIBIT 3-3. *(Continued)*

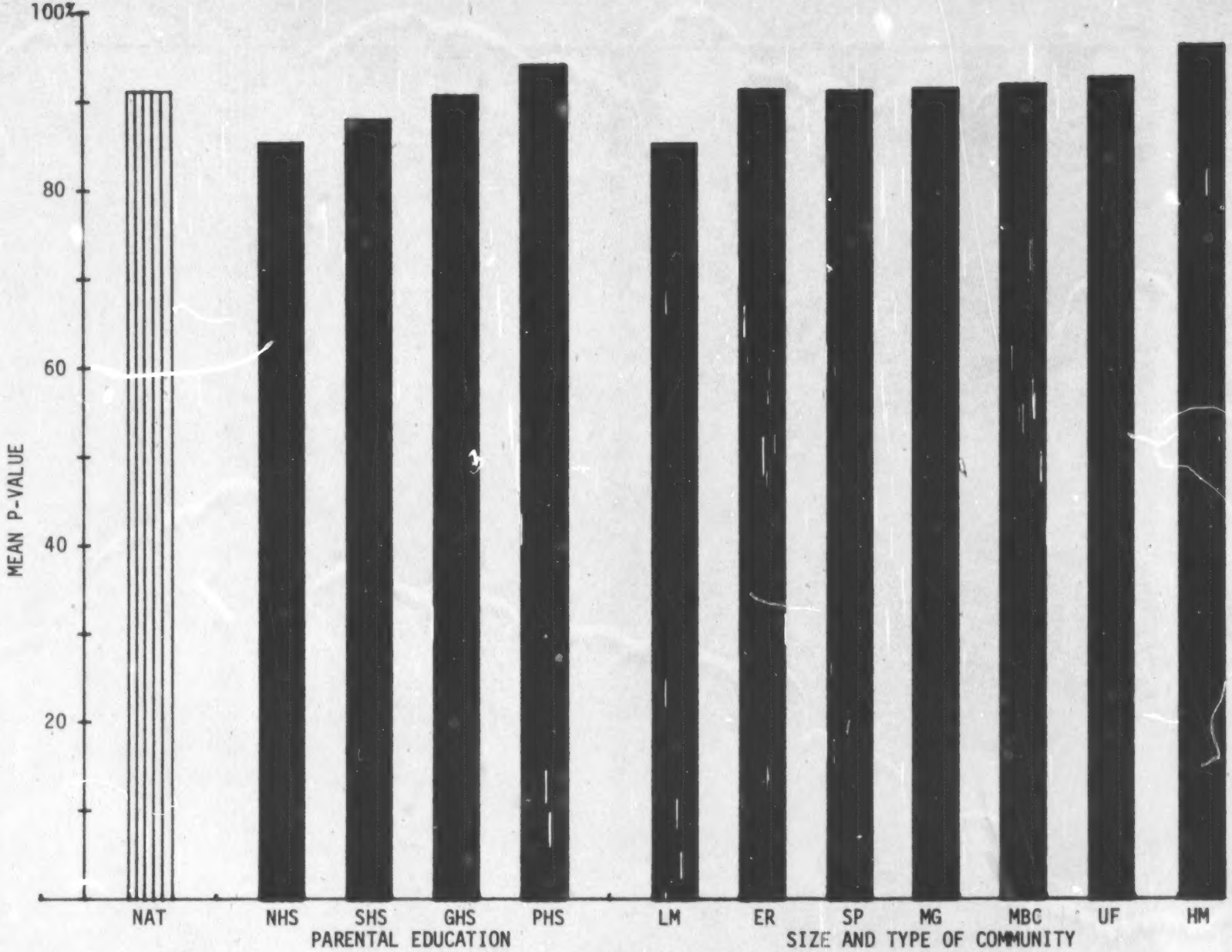


EXHIBIT 3-4. Functional Literacy Index Points for the Universe and Formats

	Universe (86)	I (38)	IIA (13)	IIB (11)	IIC (10)	III (14)
National	1,000.0	1,002.4	1,039.1	1,021.3	971.7	960.6
Region						
Southeast	966.2	971.0	1,013.3	991.3	926.9	917.4
West	990.9	992.7	1,034.9	1,010.5	950.5	958.8
Central	1,023.0	1,025.2	1,060.4	1,037.1	1,004.9	984.0
Northeast	1,005.2	1,006.0	1,038.5	1,035.9	980.7	965.0
Sex						
Male	989.9	987.8	1,031.7	1,014.2	974.9	948.3
Female	1,009.4	1,016.5	1,045.7	1,027.3	968.5	971.5
Race						
Black	867.5	871.4	936.0	903.0	830.8	791.4
White	1,021.9	1,024.4	1,059.5	1,042.8	993.7	984.2
Parental education						
No high school	936.4	941.4	995.0	951.5	914.1	871.4
Some high school	964.8	968.7	1,012.2	1,000.5	922.3	912.2
Graduated high school	994.5	998.4	1,038.0	1,013.1	959.4	953.8
Post high school	1,031.3	1,031.7	1,063.3	1,051.6	1,007.8	1,001.2
Size and type of community						
Low metro	934.3	947.9	972.5	961.8	896.0	867.6
Extreme rural	1,000.9	998.1	1,048.6	1,023.8	953.5	979.8
Small place	999.1	997.9	1,039.7	1,019.3	983.9	959.7
Medium city	1,000.9	1,003.4	1,047.5	1,027.4	954.9	963.5
Main big city	1,008.1	1,008.7	1,047.3	1,016.8	1,012.5	960.1
Urban fringe	1,013.6	1,020.2	1,049.1	1,035.1	976.2	972.5
High metro	1,051.9	1,056.1	1,079.7	1,072.2	1,000.9	1,027.3

I - Passages
IIA - Graphic materials -- drawings, pictures, signs, labels, coupons
IIB - Graphic materials -- charts, maps, graphs
IIC - Graphic materials -- forms
III - Reference materials

EXHIBIT 3-5. Functional Literacy Index Points for the Universe and Behaviors

	Universe (86)	1 (12)	2 (47)	3 (8)	4 (16)	5 (3)
National	1,000.0	1,067.2	1,004.5	1,026.5	923.4	1,017.8
Region						
Southeast	966.2	1,043.3	970.2	1,009.5	870.7	988.7
West	990.9	1,052.2	992.5	1,021.1	920.9	1,013.6
Central	1,023.0	1,077.2	1,028.0	1,046.2	951.6	1,047.0
Northeast	1,005.2	1,065.7	1,012.0	1,019.9	931.7	1,009.5
Sex						
Male	989.9	1,055.9	995.4	1,008.2	906.9	1,034.0
Female	1,009.4	1,068.3	1,013.1	1,044.2	937.9	1,003.8
Race						
Black	867.5	1,009.9	874.1	987.5	701.1	893.4
White	1,021.9	1,070.2	1,025.2	1,040.1	963.1	1,042.2
Parental education						
No high school	936.4	1,035.4	943.6	980.8	814.4	958.1
Some high school	964.8	1,052.1	970.1	1,006.3	862.1	968.8
Graduated high school	994.5	1,062.7	998.7	1,023.5	913.8	1,029.5
Post high school	1,031.3	1,072.4	1,035.3	1,047.8	975.6	1,055.6
Size and type of community						
Low metro	934.1	1,047.8	946.6	961.5	799.9	931.0
Extreme rural	1,000.	1,057.5	998.6	1,040.5	939.8	1,030.9
Small place	999.1	1,060.1	1,004.3	1,025.2	921.8	1,016.8
Medium city	1,000.9	1,059.3	999.7	1,036.3	934.4	1,044.3
Main big city	1,008.1	1,071.9	1,015.1	1,031.7	924.4	1,024.3
Urban fringe	1,013.6	1,070.4	1,021.9	1,028.4	938.2	1,017.2
High metro	1,051.9	1,073.9	1,051.2	1,063.8	1,028.3	1,067.7

1 - Understand word meanings
2 - Glean significant facts
3 - Comprehend main ideas and organization
4 - Draw inferences
5 - Read critically

CHAPTER 4

THREE UNIQUE EXERCISES AND SOME FOOD FOR THOUGHT ON FUNCTIONAL LITERACY

Most groups performed at least moderately well on most of the exercises administered in the Mini-Assessment of Functional Literacy (MAFL); however, there were three exercise parts on which no group -- including the superior readers -- performed well.

One exercise showed a replica of an automobile insurance policy statement. The difficult part asked the maximum amount the policy would pay if you injured another person in an automobile accident.

A second exercise showed an application blank with instructions for enrollment in a book club. The difficult part asked what money you should send with the order for the books -- the instructions state that the applicant will be billed.

A third exercise showed a replica of a traffic ticket. The difficult part asked for the last day on which the fine could be paid.

It is difficult to make a valid statement as to why these three exercise parts presented such unique problems even to the superior readers. The fact that they did gives us some food for thought about what functional literacy is and who is functionally literate. Insurance policy statements, traffic tickets and application forms (whether to book clubs or something else) are certainly part of everyday life and represent materials with which we must be able to cope. These exercises, it seems, point out that there are reading materials that we encounter in everyday life that stymie even some of the best readers, yet we would not say that they are functionally illiterate. Upon some reflection, probably all of us could think of at least one occasion when we read some very basic, everyday-life reading material incorrectly.

What then is functional illiteracy? Who is functionally illiterate? How much of those basic reading materials of everyday life can a person misread and still be considered functionally literate?

Exhibit 4-1 shows the percentages of each group who answered the three unique exercise parts correctly (adjusted to the superior reader highest expected level of performance) and the unadjusted or actually observed percentages. Some groups have fairly large adjusted percentages, meaning that they performed nearly as well as the superior readers; others still performed poorly.

EXHIBIT 4-1. Adjusted and Unadjusted Percentages Answering the Three Unique Exercise Parts Correctly

	Insurance Policy		Application		Traffic Ticket	
	Adj.	Unadj.	Adj.	Unadj.	Adj.	Unadj.
Superior reader	100.0	36.7	100.0	53.5	100.0	60.0
National	47.7	17.5	81.7	43.7	77.7	46.6
Region						
Southeast	29.7	10.9	79.6	42.6	70.2	42.1
West	39.2	14.4	77.2	41.3	77.3	46.4
Central	59.5	21.8	83.4	44.6	85.7	51.4
Northeast	52.0	19.1	84.9	45.4	74.7	44.8
Sex						
Male	62.9	23.1	79.3	42.4	77.8	46.7
Female	32.2	11.8	89.5	47.8	77.5	46.5
Race						
Black	27.2	10.0	68.4	36.6	45.8	27.5
White	52.0	19.1	83.6	44.7	85.3	51.2
Parental education						
No high school	36.2	13.3	79.3	42.4	50.0	30.0
Some high school	39.2	14.4	85.8	45.9	71.3	42.8
Graduated high school	45.8	16.8	80.0	42.8	76.8	46.1
Post high school	53.7	19.7	84.5	45.2	85.2	51.1
Size and type of community						
Low metro	35.4	13.0	86.2	46.1	60.2	36.1
Extreme rural	39.8	14.6	82.6	44.2	85.2	51.1
Small place	52.9	19.4	77.4	41.4	73.7	44.2
Medium city	34.9	12.8	71.4	38.2	81.5	48.9
Main big city	75.2	27.6	87.7	46.9	84.2	50.5
Urban fringe	40.9	15.0	89.9	48.1	76.2	45.7
High metro	95.1	34.9	92.1	49.3	97.5	58.5